

## Transmission

### 9. How is HIV spread from one person to another?

HIV is spread when infected blood, semen, vaginal fluids, or breast milk gets into the bloodstream of another person through:

- direct entry into a blood vessel;
- mucous linings, such as the vagina, rectum, penis, mouth, eyes, or nose; or
- a break in the skin.

You can **only** get HIV if infected blood, semen, vaginal fluids, or breast milk gets into your body.

HIV is **not** spread through saliva (spit).

HIV is spread in the following ways:

- Having vaginal, anal, or oral sex without using a condom.
- Sharing needles, syringes, or works to inject drugs, vitamins, hormones, steroids, or medicines.
- Women with HIV infection can pass HIV to their babies during pregnancy, delivery, and breastfeeding.
- People who are exposed to blood and/or body fluids at work, like health care workers, may be exposed to HIV through needle-sticks or other on-the-job exposures.

It is also possible to pass HIV through sharing needles for piercing or tattooing (see question 29).

A person infected with HIV can pass the virus to others during these activities. This is true even if the person:

- has no symptoms of HIV;
- has not been diagnosed with HIV/AIDS;
- is taking HIV medicine; or
- has an **undetectable** viral load (see question 22).

HIV is **not** spread by casual contact like sneezing, coughing, eating or drinking from common utensils, shaking hands, hugging, or using restrooms, drinking fountains, swimming pools, or hot tubs (see questions 26-28).

### 10. Is it easy to get HIV?

**No.** HIV is not like the flu or a cold. It is **not** passed through casual contact or by being near a person who is infected.

You can **only** get HIV if infected blood, semen, vaginal fluids, or breast milk gets into your body (see question 9).

## 11. Does everyone who is exposed to HIV get infected?

**No.** But it is important to know that you *can* be infected by a single exposure to HIV-infected blood, semen, or vaginal fluids. Whether a person becomes infected after being exposed to HIV depends on how the virus enters the body and the amount of virus that enters the body.

## 12. How is HIV spread during injection drug use?

Any time you share injection equipment with someone who has HIV or whose HIV status you do not know, there is a high risk that you will get HIV. Small amounts of blood from a person infected with HIV may stay in the needles, syringes, or drug “works” (spoons, bottle caps, and cotton) and can be injected into the bloodstream of the next person who uses the equipment (see question 53).

## 13. Can injecting vitamins, steroids, hormones, or insulin put me at risk for HIV infection?

It can if you share injection equipment. HIV can be passed any time you share equipment to inject drugs, vitamins, hormones, insulin, steroids, or any other substance intravenously (IV) into a vein, into your muscles, or under your skin. Always use new, sterile needles and syringes when injecting any substance into your body (see question 53). If you must reuse a needle, clean it with bleach (see questions 53, 54).

## 14. How is HIV spread during anal sex?

Unprotected anal sex with a person who has HIV or whose HIV status you do not know is the highest-risk sexual activity for both men and women. The walls of the anus and rectum are thin and have many blood vessels that can be injured during anal sex. HIV-infected semen can be easily absorbed through these thin walls and into the bloodstream. Injured tissue in the anus and rectum can expose the penis to blood containing HIV.

Using latex condoms for anal sex lowers HIV risk, but condoms fail more often during anal sex than during vaginal or oral sex. So, protected anal sex is still riskier than protected vaginal or oral sex (see questions 44, 45).

## 15. How is HIV spread during vaginal sex?

HIV is spread during vaginal sex when HIV-infected semen, vaginal fluid, or menstrual blood comes into contact with the mucous membranes of the vagina or penis. In general, since there is more mucous membrane area in the vagina, and a greater possibility of small cuts in the vagina, women are more likely than men to get infected with HIV through unprotected vaginal sex. Teenagers and women entering menopause are at especially high risk for getting HIV (and other sexually transmitted diseases) because the tissue lining the vagina is more fragile at these ages. Cuts or sores on the penis or vagina raise the risk of HIV infection during

vaginal sex for both men and women. Using a male latex condom or a female condom lowers your risk of getting HIV through vaginal sex (see questions 44-46).

## 16. How is HIV spread during oral sex?

Although oral sex is less risky than anal or vaginal sex, it is possible to get HIV by performing oral sex on an HIV-infected partner. HIV transmission could potentially occur if blood, pre-ejaculation fluid, semen, or vaginal fluids enter open sores or cuts in or around the mouth, such as those caused by canker sores or blisters, vigorous teeth brushing or flossing, or some form of trauma. Using a latex barrier, like a condom or dental dam, reduces your risk of HIV infection (see question 49).

## 17. Does having a sexually transmitted disease (STD) affect my risk of getting HIV?

**Yes.** Having an STD, especially herpes or syphilis sores, increases your risk of getting HIV and giving HIV to a partner. Other STDs, like gonorrhea or chlamydia, also increase your risk of becoming infected with HIV.

STDs change the cells that line the vagina, penis, rectum, or mouth, which can cause open sores to develop. These sores make it easier for HIV to enter the body. Any inflammation or sore caused by an STD also makes it easier for HIV to enter the bloodstream during sexual contact.

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Studies have shown that STDs increase the amount of HIV in the semen and vaginal fluids of people infected with HIV because of increased inflammation in the area. Therefore, if you have HIV and an STD, ***you are more likely to pass HIV to your partner*** during unprotected sex. Studies have also shown that treatment for STDs may reduce HIV transmission.

Many STDs do not cause symptoms, especially in women. It is important for sexually active men and women to get tested for STDs regularly, even if they have no symptoms.

## 18. Does sexual contact with many partners increase my risk of getting HIV?

**Yes.** Having unprotected sex with many partners increases your risk of getting HIV because it increases your chances of coming into contact with someone who has HIV. It also increases your risk of getting other sexually transmitted diseases (like herpes, gonorrhea, chlamydia, venereal warts, or syphilis). Having an STD, in turn, can make you more likely to get HIV (see question 17).

However, having unprotected sex with *anyone* who has HIV, or whose HIV status you do not know, puts you at risk. So, even a person who has unprotected sex with just one partner can still get HIV if that partner was infected prior to having sex or becomes infected during the relationship.

## 19. Are women who have sex with women at risk for HIV infection?

Woman-to-woman sexual transmission of HIV is rare, but it is possible. Women who have sex with women are at risk for HIV infection if they share needles to inject drugs or if they have unprotected sexual contact that results in blood-to-blood exposure. Women who have sex with women can reduce their risk of getting HIV by:

- not injecting drugs, or by not sharing needles, syringes, or works if they do use drugs (see question 53); and
- using a dental dam (a thin, square piece of latex), a non-lubricated condom that is cut open, or a plastic wrap as a barrier during oral sex (see question 49). HIV transmission could potentially occur if vaginal secretions or menstrual blood enters open sores or cuts in or around the mouth, such as those caused by canker sores or blisters, vigorous teeth brushing or flossing, or some form of trauma. This could allow for the exchange of potentially infected blood or body fluids.

## 20. Can a woman who has HIV pass the virus to her baby?

**Yes.** A woman who has HIV can pass the virus to her baby during:

- pregnancy;
- delivery; or
- breastfeeding.

There are medicines that women with HIV should take during pregnancy, labor, and delivery and that can be given to their babies just after birth, to *greatly reduce* the chance that their babies will become infected with HIV. It is best for women to know their HIV status before they become pregnant or very early in their pregnancy so that they can make informed decisions and take full advantage of these medicines. Since HIV is also found in breast milk, women with HIV should not breastfeed their babies (see question 52).

## 21. Can a person with HIV who is not sick or who has no symptoms pass HIV to someone else?

**Yes.** Any person infected with HIV, even if he or she has no symptoms, can pass HIV to another person. Risk reduction measures still need to be taken (see Risk Reduction, page 19).

## 22. Can a person with HIV who has an undetectable viral load pass HIV to someone else?

**Yes.** A viral load test measures the amount of HIV in a person's blood. An undetectable viral load means that the amount of virus in a person's blood is too low for the test to measure. It does **not** mean that there is no HIV in the person's body. A person who has a low or undetectable viral load can pass HIV to someone else, although the risk is probably lower than if he or she had a high viral load. Risk reduction measures, like using condoms and not sharing needles, still need to be taken (see Risk Reduction, page 19).

## 23. Can I get HIV from kissing?

No one has ever gotten HIV through casual kissing, such as between parents and children. It is possible, but extremely unlikely, for HIV to be passed during "deep kissing." There has been just one reported case of this kind: a woman became infected through deep kissing with a man with AIDS whose gums often bled after brushing and flossing his teeth; after this activity, the couple often engaged in deep kissing and protected sex. Although HIV transmission most likely occurred during deep kissing, it was probably the blood in the man's mouth, not his saliva, which transmitted HIV. Both the man and the woman had gum disease that may also have contributed to the woman becoming infected. It is important to note that in this situation, HIV is *not* passed through saliva, but rather through **direct blood-to-blood contact**.

## 24. Can I get HIV from a human bite?

It is very unlikely that a person would get HIV from a human bite. HIV can only be passed in this manner through **direct blood-to-blood contact** and not by exchanging saliva. To pass the virus, the infected person would need to have blood in his or her mouth **and break the skin** of the other person. The break in the skin of the uninfected person could allow infected blood to enter his or her bloodstream. If a person who does not have HIV bites and breaks the skin of a person with HIV, transmission of the virus could only occur if the uninfected person has open sores or cuts in the mouth that allow for blood-to-blood contact.

## 25. Can I get HIV from a mosquito bite?

**No.** Studies have shown that mosquitoes and other insects do **not** pass HIV to humans.

When an insect bites a person, it does not inject its own blood or a previous victim's blood into the new victim. It injects only saliva. Unlike the germs that cause malaria and other diseases spread by insect bites, HIV does not reproduce (and therefore cannot survive) in insects. So, even if the virus enters a mosquito or another sucking or biting insect, the insect does not become infected and cannot pass HIV to the next human that it feeds on or bites.

## 26. Can I get HIV from living in the same house as a person with HIV or AIDS?

There have been *no* reported cases of HIV transmission from casual contact while living with a person with HIV or AIDS, even for a long time. However, there have been reported cases where household members became infected with HIV as a result of **direct blood-to-blood contact**, such as sharing a razor or toothbrush, getting stuck with a needle, or by getting infected blood on a rash and/or open sore.

## 27. Can HIV be passed through food, water, or the air?

**No.** HIV is not passed through food, water, or air, or by touching any object that was handled by, touched by, or breathed on by a person who has HIV.

## 28. Can I get HIV from swimming pools or hot tubs?

**No.** HIV cannot live in a hot tub or swimming pool. There have been no cases of HIV transmission through swimming pools or hot tubs.

## 29. Can I get HIV from body piercing, ear piercing, or tattoo needles?

No AIDS cases have been linked with any ear or body piercing or tattooing. While HIV transmission from body piercing or tattooing is highly unlikely and has not yet occurred, it is possible for the blood of an infected person to be left on a needle that is later used to pierce or tattoo another person. To guard against this possibility, all needles and equipment used for piercing and tattooing should be new or should be sterilized between uses, and new ink should be used for tattooing. However, other blood-borne illnesses, such as hepatitis B and possibly hepatitis C, can be transmitted by sharing tattooing and piercing equipment.

## 30. What is being done to keep the blood supply and other blood products safe from HIV?

In the United States, all blood and organ donations are screened for HIV. In addition, all blood products, such as clotting factor, undergo heat treatment and at least one other process to kill HIV.

## 31. Are health care workers or people in other occupations at risk for HIV?

Health care workers and others who are exposed to potentially infectious blood and/or other body fluids on the job are at risk. To reduce this risk, health care workers follow strict safety guidelines and use Universal Precautions to prevent spreading disease. Universal Precautions include always wearing latex gloves when taking blood samples or giving shots and washing hands before and after all procedures.

While these guidelines have reduced the frequency of on-the-job exposures (*occupational exposure*) to HIV, needle-sticks and other direct contact with blood and body fluids sometimes occur. The New York State Department of Health recommends that health care workers who experience significant risk of exposure to HIV take medicines to reduce the risk of HIV infection. This is called *postexposure prophylaxis* (PEP) (see question 58).

### 32. Can I get HIV from contact with my doctor, dentist, or other health care professional?

It is extremely unlikely that you can get HIV or other blood-borne diseases from a doctor, dentist, or other health care professional. To protect themselves and their patients, health care workers are required to use Universal Precautions to reduce the risk of exposure to blood or body fluids. Universal Precautions include always wearing latex gloves when taking blood samples or giving shots and washing hands before and after all medical procedures. Dental health care providers should use latex gloves whenever they place their fingers in or around a patient's mouth. *All* medical personnel should use Universal Precautions with *all* patients. Patients can ask their health care providers about how Universal Precautions are followed where they receive their care.

## Testing

### 33. Is there a test for HIV infection?

**Yes.** There are a number of tests that detect either antibodies to HIV or HIV itself.

Your body produces antibodies to fight germs. People who are infected with HIV have HIV antibodies in their body fluids. There are two kinds of HIV antibody tests available in New York State: a blood test and an oral test.

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HIV antibody tests do not measure the amount of virus in the bloodstream. The tests also cannot tell if a person has AIDS, which is a late stage of HIV disease (see question 1).

Other tests measure HIV directly rather than measuring antibodies to the virus. These tests are usually used to measure the amount of HIV in the bloodstream of someone who has already had a positive HIV antibody test. In some special situations (for example, to test newborn babies of HIV-infected women), tests that measure HIV directly are used to detect HIV infection. However, the HIV antibody test is by far the most common test for HIV infection.